

**Program of the Thirteenth Symposium on Antarctic Meteorites held
at the National Institute of Polar Research, Tokyo,
June 7–9, 1988**

1. Comparison of meteorite concentration and age of ice in the Allan Hills and the Meteorite Ice Field near the Yamato Mountains. F. NISHIO.
2. Microparticles in Antarctic deep ice core—Cosmic dusts observed?— A. HIGASHI, Y. FUJII and S. TAKAMATSU.
3. Uranium-series dating of tephra-banded ice at ablation sites. E. L. FIREMAN.
4. Search for Antarctic meteorites on the bare ice field around Sør Rondane Mountains by JARE-29 Asuka party in 1987–1988 field season. METEORITES TEAM OF THE 29TH JARE.
5. Classification of small meteorites in Yamato-79 collection. H. KOJIMA and K. YANAI.
6. Preliminary consortium studies of the Yamato-86032 lunar meteorite. YAMATO LUNAR METEORITE CONSORTIUM GROUP (H. TAKEDA).
7. Geochemistry of lunar meteorite Yamato-86032. P. H. WARREN and G. W. KALLEMEYN.
8. New meteorite finds in the Allende area, Mexico. G. SÁNCHEZ-RUBIO, H. NAGASAWA and T. MATSUI.
9. Thermal release of organic compounds from insoluble organic matter in the Yamato-791198 carbonaceous chondrite. A. SHIMOYAMA, M. KOMIYA and K. HARADA.
10. Pyrolytic studies of HCl and HF residues from carbonaceous chondrites. T. MURAE, A. MASUDA and T. TAKAHASHI.
11. Detection of five ^{13}C isotopic species of HC_3N in the Taurus dark cloud TMC1. S. TAKANO, Y. HIRAHARA, A. MASUDA, H. SUZUKI, M. OHISHI, S. ISHIKAWA and N. KAIFU.
12. Petrology and mineralogy of the Ningqiang carbonaceous chondrite. D. WANG.
13. Major element chemical compositions of the constituents in C3 chondrites and their formational environments. Y. IKEDA.
14. Formation of type B1 CAI. H. NAGAHARA and H. NAGASAWA.
15. Texture and chemical composition of pyroxenes in some carbonaceous chondrites and comparison with those in the unequilibrated ordinary chondrites. T. NOGUCHI, H. NAGAHARA and I. KUSHIRO.
16. Origin of positive correlation of Mn with Fe in matrix Fe-rich olivine of primitive type 3 ordinary chondrites. S. MATSUNAMI.
17. The evolution of chondrules. R. H. HEWINS.
18. Lamellae-bearing “pigeonite” in “equilibrated” ordinary chondrites (H4-6) and other texture in pyroxenes in ordinary chondrites (type 3-4): Implication to the thermal history. T. NOGUCHI.
19. Chondrule-like objects in terrestrial volcanic rocks. G. SÁNCHEZ-RUBIO.
20. Chemical and mineral compositions of fusion crusts on Antarctic chondrites. Y. TAZAWA and T. SASAKI.
21. Chemistry of Y-74025 chondrite. T. FUKUOKA and M. KIMURA.
22. Chemical and petrological studies on a light-colored fragment in the Hedjaz chondritic breccia. K. MISAWA, N. NAKAMURA, S. WATANABE and M. KITAMURA.
23. Further studies of trace element distribution in chondrule cores and rims of the Tieschitz (H3.6) chondrite. S. NODA, H. NAGAMOTO, Y. NISHIKAWA, K. MISAWA and N. NAKAMURA.
24. Neutron activation measurement of iridium concentration in Yamato CV chondrite. S. YABUSHITA and K. WADA.
25. Abundances and distribution of trace elements in enstatite chondrites. M. EBIHARA.
26. The correlation of magnesium isotope abundance and chemical composition in type 3 chondrites. C. UYEDA and J. OKANO.
27. Isotopic studies on diogenites, based on the Rb-Sr systematics. K. TAKAHASHI, H. SHIMIZU and A. MASUDA.

28. Howardite, eucrite and diogenite (HED) meteorites from Antarctica and elsewhere: Chemical clues to their origin. R. L. PAUL, M. E. LIPSCHUTZ, H. KRUSE and R. O. SACK.
29. Rare earth and major element fractionations in evaporation of chondritic matter. S. YONEDA, H. SHIMIZU and A. MASUDA
30. Fractionation experiments of chondritic material. H. ISOBE, A. TSUCHIYAMA and M. KITAMURA.
31. Experimental studies on rare earth elements partitioning between olivine and silicate melt using chondrite as a starting material, in relation to pallasites. T. SAITO, H. SHIMIZU and A. MASUDA.
32. Volatilization studies of alkali metals on a chondritic material (Part I). T. SHIMAOKA and N. NAKAMURA
33. Volatilization studies of alkali metals on a chondritic material (Part II): Chemical compositions of residual melts. N. NAKAMURA and T. SHIMAOKA.
34. Vaporization and condensation experiments in the system plagioclase-hydrogen. H. NAGAHARA and I. KUSHIRO
35. An experimental study on heating-melting of Zhaodong chondrite. W. HOU, D. WANG, H. XIE and M. WANG.
36. A preliminary report on the nitrogen isotope measurements using a quadrupole mass spectrometer. N. SUGIURA and K. HASHIZUME.
37. Noble gas degassing from meteorites inferred from ^{40}Ar - ^{39}Ar analytical data. I. KANEOKA.
38. Penetration of solar energetic particles into the planetary region after dissipation of the solar nebula. S. SASAKI.
39. Noble gases in shock-produced diamonds. J. MATSUDA and K. NAGAO.
40. Some cosmogenic nuclides in chondrites and iron meteorites. H. NAGAI, M. HONDA, M. IMAMURA, K. KOBAYASHI, K. YOSHIDA, Y. MIYAKI and Y. CHONAN.
41. $^4\text{He}^+$ ion implantation experiments into minerals and their implications for planetary sciences. T. FUTAGAMI, M. OZIMA and Y. NAKAMURA.
42. Comparative study in cosmic-ray and terrestrial ages of Antarctic meteorites. Y. MIURA, J. RUCKLIDGE, R. BEUKENS, K. NAGAO and H. KOGA.
43. Discussion of C-14 "weathering ages" of some Yamato and Allan Hills meteorites. Y. MIURA, R. P. BEUKENS and J. C. RUCKLIDGE.
44. Noble gases in K-T boundary clay: Evidence for meteorite impact. N. TAKAOKA and Y. MIURA.
45. Anomalous data on the K-T boundary samples. Y. MIURA and M. IMAI.
46. Thermoluminescence of Antarctic meteorites from Japanese collection. M. HAG, F. HASAN, V. VANZANI, S. SARTORI and P. A. J. ENGLERT.
47. Terrestrial ages of Antarctic meteorites using the thermoluminescence levels induced in the fusion crust. N. BHANDARI and D. SENGUPTA.
48. Mechanical and morphological characterization of shock effects in Antarctic meteorites (I). N. FUJII, Y. HORII and H. TAKEDA.
49. Weathering of some Antarctic meteorites: Information from absorption bands near $3\text{ }\mu\text{m}$. M. MIYAMOTO, H. KOJIMA and K. YANAI.
50. Magnetic properties of the mixtures of Fe-Ni alloys simulated to Y-74354, Y-74362 and Y-74190 chondrites. H. NAGAI, K. MOMOSE and M. FUNAKI.
51. Studies on magnetic properties and Mössbauer spectroscopy of the Nova Petropolis iron meteorite. M. FUNAKI, J. DANON and T. NAGATA.
52. Natural remanent magnetization of magnetic grains in St. Séverin and Y-75097 ordinary chondrites. M. FUNAKI, J. DANON and T. NAGATA.
53. Magnetic analysis of Antarctic chondrites and achondrites on the basis of a magnetic binary system model. T. NAGATA and M. FUNAKI.
54. Melting and deformation of a chondrite by shock-loading. M. KITAMURA, A. TSUCHIYAMA, S. WATANABE, Y. SYONO and K. FUKUOKA
55. A new gas condensation furnace and its application to condensation in the system Mg_2SiO_4 -

- H₂. A. TSUCHIYAMA.
56. Yamato-82162: A new kind of CI carbonaceous chondrite found in Antarctica. K. TOMEOKA, H. KOJIMA and K. YANAI.
 57. A preliminary report of mineralogy of Y-82162 (CI). S. WATANABE, A. TSUCHIYAMA and M. KITAMURA.
 58. Yamato-86720: An extensively altered and thermally metamorphosed CM carbonaceous chondrite? K. TOMEOKA, H. KOJIMA and K. YANAI.
 59. Compositional study of carbonaceous chondrites with CI-CM affinities. G. W. KALLEMEYN.
 60. Critical analysis of the application of the sphalerite cosmobarometer to EH chondrites. A. EL GORESY and K. EHLERS.
 61. Carbonaceous chondrite or SNC composition for the Phobos? P. JAKEŠ and Z. CEPLECHA.
 62. Mineralogy of interstitial rim materials of ureilites and their origin. H. OGATA, H. MORI and H. TAKEDA.
 63. Mineralogy of slowly cooled eucrites and thermal histories of the HED parent body. H. TAKEDA, T. TAGAI and A. L. GRAHAM.
 64. Mineralogical study of the Yamato-791694 ataxite with reference to Santa Catharina. J. SAITO, O. TACHIKAWA, H. TAKEDA and T. TAGAI.
 65. Low-density plagioclases from meteoritic impact crator. Y. MIURA.

Special Lecture

66. Advances in our understanding of the ordinary chondrites. R. HUTCHISON.

Abstract only

67. The petrological study on the two meteorite samples (ALH-77226, ALH-78103-24) collected in Antarctica. E. MOLAN and X. ZHENG.
68. Heating experiments on maskelynite from the Lonar impact crater, India. V. K. NAYAK.
69. Thermoanalytical study of four chondrites from Antarctica. B. LANG, A. GRODZIŃSKI and N. BAKUN-CZUBAROW.
70. The key mineralogical taxonomic parameters in equilibrated ordinary chondrites. D. WANG and W. HOU.
71. Aqueous alteration of CI and CM carbonaceous chondrites: A review. K. TOMEOKA, H. Y. MCSWEEN and P. R. BUSECK.
72. Trace element geochemistry of lunar meteorite Y-86032—Initial data. C. KOEBERL.
73. Lunar meteorite Y-86032: Same cosmic-ray exposure age and trapped noble gas component as Y-82192/3. O. EUGSTER.